



Birth cohort study on the effects of desert dust exposure on children's health: Protocol of an adjunct study of the Japan environment & children's study

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Abstract:

Introduction: Desert dust is estimated to constitute about 35% of aerosol in the troposphere. Desertification, climatic variability and global warming all can contribute to increased dust formation. This study aims to examine possible health effects of desert dust exposure on pregnant women and their children. The purpose of this report was to present the study protocol. **Methods and analysis:** This 4-year birth cohort study began in 2011 as an adjunct study of the Japan Environment & Children's Study (JECS) involving three regions: Kyoto, Toyama and Tottori. The JECS participants of the three regions above who also agreed to participate in this adjunct study were enrolled prior to delivery. Light Detecting and Ranging (LIDAR) with a polarisation analyser, which can distinguish mineral dust particles from other particles, is used for exposure measurements. Outcomes are allergic symptoms for mothers and development of asthma and other allergic or respiratory diseases for their children. Data are acquired in a timely manner by connecting local LIDAR equipment to an online questionnaire system. Participants answer the online questionnaire using mobile phones or personal computers. **Ethics and dissemination:** The study protocol was approved by the ethics committees of Kyoto University, University of Toyama and Tottori University. All participants provided written informed consent. The results of this study will be published in peer-reviewed journals and disseminated to the scientific community and general public. Trial Registration number: UMIN000010826.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution

Air Pollution: Dust

Geographic Feature:

resource focuses on specific type of geography

Desert

Geographic Location:

Climate Change and Human Health Literature Portal



resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Japan

Health Impact: 

specification of health effect or disease related to climate change exposure

Respiratory Effect, Other Health Impact

Respiratory Effect: Asthma, Upper Respiratory Allergy

Other Health Impact: allergic diseases

Population of Concern: A focus of content

Population of Concern: 

populations at particular risk or vulnerability to climate change impacts

Children, Pregnant Women

Resource Type: 

format or standard characteristic of resource

Research Article

Timescale: 

time period studied

Time Scale Unspecified